

MECHANICAL SYMBOLS:

ABBREVIATIONS:

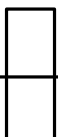







AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JP	JK	JL	JM	JN	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LP	LQ	LR	LS	LT	LU	LV	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SP	SQ	SR	SS	ST	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX

CALL OUTS:

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graph TD
    EQ[EQUIPMENT TYPE] --> E[E#]
    EQ --> UN[UNIT NUMBER]
    UN --> U((100))
    UN --> CS[CONNECTION SITE]
    CS --> C((120))
    C --> AD[AIR DISTRIBUTION DEVICE]
    AD --> D((120))
    D --> DN[DETAIL NO.]
    DN --> S[SECTION/DETAIL/ELEVATION MARK]
    S --> S1((1))
    S1 --> DR[DRAWING]
    DR --> T[TEST AND BALANCE MEASUREMENT]
    T --> T1((1))
  
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DUCTWORK SYMBOLS:

	24x18	RECTANGULAR DUCT SIZE
	12"	ROUND DUCT SIZE
		MANUAL BALANCING DAMPER ON DUCT TO BE MOUNTED OVER ACCESSIBLE CEILING
		SUPPLY AIR DUCT
		RETURN AIR DUCT
		EXHAUST AIR DUCT
 SINGLE LINE		
		INDICATES TRANSITION
		SUPPLY AIR DIFFUSER
		RETURN AIR GRILLE
		EXHAUST AIR GRILLE
 SHADING INDICATES TO PROVIDE QUADRPANT BLANK-OFF IN NECK OF DIFFUSER. TO BE FINISHED WITH DIFFUSER		

HVAC PIPING:

	FIRE PRESSURE PIPE
	HEATING HOT WATER SUPPLY
	HEATING HOT WATER RETURN
	AIR CONDITIONING CONDENSATE
	DIRECTION OF FLOW
	SHUTOFF VALVE
	CHECK VALVE
	UNION
	REDUCER
	STRAINER
	BALANCING VALVE
	FLEXIBLE PIPE CONNECTOR
	THERMOMETER IN PIPE WELL
	PIPE GUIDE
	PIPE EXPANSION ANCHOR
	FLEXIBLE METAL EXPANSION LOOP ASSEMBLY
	GAUGE PORT (PET'S PLUG)
	3-WAY CONTROL VALVE
	2-WAY CONTROL VALVE
	NORMALLY OPEN
	NORMALLY CLOSED
	MANUAL AIR VENT


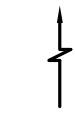

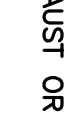




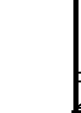





CONTROL SYMBOLS:

	PNEUMATIC THERMOSTAT
	NEW TEMPERATURE SENSOR (NON-ADJUSTABLE)
	NEW SPACE TEMPERATURE SENSOR (TEMP. ADJUSTMENT)
	HUMIDITY SENSOR

CONTROL SYMBOLS:

①	PNEUMATIC THERMOSTAT
T	NEW TEMPERATURE SENSOR (NON-ADJUSTABLE)
T1	NEW SPACE TEMPERATURE SENSOR (TEMP. ADJUSTMENT)
H	HUMIDITY SENSOR

HVAC GENERAL NOTES:

	SLOPE, TOP REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN CEILING REGISTER OR GRILLE
	EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE
	EXHAUST OR RETURN WALL REGISTER OR GRILLE
	EXHAUST OR RETURN WALL REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN REGISTER OR TOP GRILLE
	VANED ELBOW & AIR SPUT TYPE DUCT TAKE-OFF
	CONNECT NEW DUCT TO EXISTING DUCT
	INCLINED RISE, IN DIRECTION OF AIR FLOW
	INCLINED DROP, IN DIRECTION OF AIR FLOW
	LIMIT OF DEMOLITION
	COMBINATION FIRE/SMOKE DAMPER
	FIRE DAMPER
	INDICATES UNDERCUT DOOR - UNDERCUT 1" SEE ARCHITECTURAL PLANS.

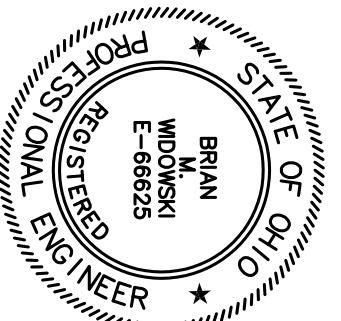
INDICATES UNDERCUT DOOR - UNDERCUT 1" SEE ARCHITECTURAL PLANS.

CONSULTANTS:

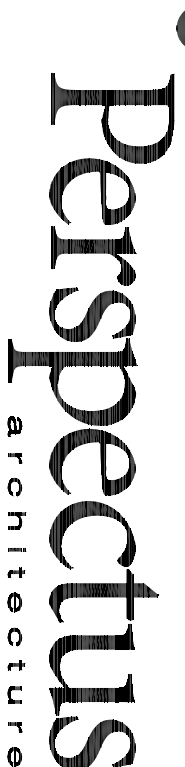
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ARCHITECTS



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VAV TERMINALS

MARK	MAX. AIRFLOW (CFM)	MIN. AIRFLOW (CFM)	TERMINAL TYPE (NOTE 2)	CAPACITY (THERM)	COLL. FLOW		AIR TEMP.		WATER PRESS.		NUMBER OF ROWS	NUMBER OF BRANCH PIPES
					COIL FLOW (GPM)	RISE (°F)	BAR TEMP (°F)	DRIP (FT)				
WM-1	300	100	A	2.7	0.5	25	0.24	2	3/4"			
WM-2	100	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-3	100	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-4	100	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-5	100	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-6	450	150	B	4.1	0.5	25	0.33	2	3/4"			
WM-7	350	150	B	4.1	0.5	25	0.33	2	3/4"			
WM-8	550	350	B	9.5	1.0	25	0.33	2	3/4"			
WM-9	555	250	B	6.8	0.5	25	0.33	2	3/4"			
WM-10	800	200	C	5.5	0.5	25	0.65	2	3/4"			
WM-11	675	300	B	8.2	0.65	25	0.33	2	3/4"			
WM-12	200	200	A	5.5	0.6	25	0.24	2	3/4"			
X	X	X	X	X	X	X	X	X	X			
WM-14	500	150	B	4.1	0.5	25	0.33	2	3/4"			
WM-15	600	300	B	8.2	1.0	25	0.33	2	3/4"			
WM-16	300	300	B	8.2	1.0	25	0.33	2	3/4"			
WM-17	150	75	A	2.7	0.5	25	0.24	2	3/4"			
WM-18	150	75	A	2.7	0.5	25	0.24	2	3/4"			
WM-19	100	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-20	2400	600	E	16.4	2.0	25	0.5	2	3/4"			
WM-21	450	150	B	4.1	1.0	25	0.33	2	3/4"			
WM-22	250	250	A	2.8	1.0	25	0.33	2	3/4"			
WM-23	150	50	A	2.7	0.5	25	0.24	2	3/4"			
WM-24	200	100	A	2.7	0.5	25	0.24	2	3/4"			
WM-25	450	250	B	6.8	1.0	25	0.33	2	3/4"			
WM-26	700	250	B	6.8	1.0	25	0.33	2	3/4"			
WM-27	1000	500	C	13.6	1.5	25	0.65	2	3/4"			
WM-28	350	125	B	3.4	0.5	25	0.33	2	3/4"			
WM-29	720	300	C	8.2	1.0	25	0.65	2	3/4"			
WM-30	450	150	B	4.1	0.5	25	0.33	2	3/4"			
WM-31	900	225	C	6.1	1.0	25	0.65	2	3/4"			
WM-32	350	175	B	4.8	0.5	25	0.33	2	3/4"			
WM-33	450	175	B	4.8	0.5	25	0.33	2	3/4"			

VAV TERMINAL NOTES:

NOTE 1: BASIS OF SPECIFICATION IS TTUS DESV. TERMINALS SHALL BE CAPABLE OF OPERATING WITH A MINIMUM INLET PRESSURE OF 0.5 IN. W.G. PROVIDE WITH SCREW ACCESS (UN-HINGED) WHERE TERMINALS ARE INSTALLED IN THE BEAM/JOIST SPACE.

NOTE 2: REFER
AND DUCT SIZES

NOTE 3: ACCEPTABLE VAV BOX MANUFACTURERS ARE TITUS, TRANE AND PRICE

VARIABLE AIR VOLUME TERMINALS : CONNECTION SCHEDULE

TERMINAL TYPE	INLET		MAX. FLOW LOW (CFM)	AIR PRESSURE (IN. W.G.)	FOULING NOISE (NO)	DISCHARGE	
	TERMINAL NECK SIZE (IN)	SUPPLY DUCT (IN)				TERMINAL CONN. SIZE (IN)	DISCHARGE DUCT (IN)
A	6"	8"	350	1.0"	25	12x6	10x10
B	8"	10"	700	1.0"	27	12x10	16x12
C	10"	12"	1200	1.0"	28	14x12.5	22x12
D	12"	14" OR 16x10	1600	1.0"	30	16x15	26x12
E	16"	16"	SEE PLANS	1.0"	35	24x18	24x18

NOTES:

1. PROVIDE DUCT SIZES AS INDICATED OR EQUIVALENT FREE AREA AS INDICATED ON PLANS
2. PROVIDE FLEXIBLE DUCT CONNECTIONS ON SUPPLY DUCTWORK CONNECTION POINT.
3. CONTRACTOR SHALL PROVIDE ALL TRANSITIONS/OFFSETS AS NECESSARY.


AIR DISTRIBUTION DEVICE (DIFFUSERS, REGISTERS AND GRILLES)

MARK	TYPE	FACE SIZE (INCHES)	NECK SIZE (INCHES)	STYLE	COLOR	MATERIAL	BASIS OF SPECIFICATION			NOTES
							MANUFACTURER	DIFFUSER MODEL	DAMPERS MODEL	
S1	SUPPLY	24x24	SEE TAG	LAY-IN	WHITE	ALUMINUM	OMN-4A	-		1
R1	RETURN	24x12	SEE TAG	PERFORATED FACE	WHITE	ALUMINUM	PAR-4A	-		1
R2	RETURN GRILLE	24x24	SEE TAG	PERFORATED FACE LAY-IN	WHITE	ALUMINUM	PAR-4A	-		1

NOTES:

1. ACCEPTABLE MANUFACTURERS INCLUDE: TITUS, NALOR, KRUEGER, OR PRICE

FULLY SPRINKLERED

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		Date 03-12-08		Drawing Number 1-H1	
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				 Department of Veterans Affairs	
				Office of Facilities Management	